

1 EXECUTIVE SUMMARY

The DEER CREEK & TULE RIVER AUTHORITY is requesting CONSTRUCTION funding in the amount of \$54,368 for the drilling of a well to insure a dry year water supply for the tri-colored black bird that currently nest in the Authority's Toledo Basin.

The Deer Creek and Tule River Authority is a joint powers Authority located in Tulare County in California's San Joaquin Valley comprised of the following members: Lower Tule River Irrigation District, Pixley Irrigation District, Porterville Irrigation District, Saucelito Irrigation District, Stone Coral Irrigation District and Terra-Bella Irrigation District. All six members are irrigation Districts located within the Friant Division of the Central Valley Project and combined encompass over 200,000 acres. The Authority's primary purpose is the joint exercise of the powers of the Authority members in order to facilitate more efficient operations and management of their activities. Integral to this purpose is the joint conjunctive management of the Authority members surface and groundwater supplies. The Authority members receive their surface water from local streams and rivers in addition to the Bureau of Reclamation Friant-Kern facilities. Total surface water available to the members during a one year period has ranged from less than 35,000 acre-feet to more than 550,000. Average depth to ground water has ranged from less than 50 feet to depths greater than 300 feet. The physical layout of the Authority includes rolling hills covered with citrus in the east to flatland field crops in the west.

The southern San Joaquin Valley used to contain approximately 5 million acres of wetlands, sloughs, vernal pools and associated riparian habitats along its few rivers and creeks. However, with the advent of agricultural, urban and industrial developments, most of these have been lost, to a far greater degree than anywhere else in the Great Central Valley. Only about 17,000 acres of wetlands remain in the southern San Joaquin Valley, and these include federal wildlife refuges, where the habitats are far from natural and they are minimal in size. The majority of the existing wetlands enhancement projects have occurred in the northern Central Valley. The southern San Joaquin Valley has experienced the fewest number of restoration projects, in spite of having the greatest percentage of habitat losses. Enhancing and restoring wetland and riparian values and functions in the southern San Joaquin Valley can play a significant role in the restoring, maintenance and enhancement of overall waterfowl, shorebird and neotropical migrant bird species.

Opportunities to restore or rehabilitate natural wetlands habitats in the southern San Joaquin Valley may appear limited. However, virtually hundreds of opportunities abound to enhance existing or to develop new agricultural water facilities and associated areas to help establish wetlands and enhance artificial areas which have widespread positive impacts on declining waterfowl, including ducks and shorebirds. In addition, improvements on existing or developing reserves (Coles Levee Ecosystem Preserve, Yaudanchi Ecological Reserve), and numerous other private sites have the potential to increase waterfowl and neotropical bird populations on a broad scale. This project has the potential to demonstrate how a wide variety of environmental benefits can be successfully developed and integrated into a typical water management project. This project is planned to

illustrate the numerous benefits of implementing such a project, not only to the local area, but for the entire Southern San Joaquin Valley in terms of encouraging others to duplicate similar projects. This project is designed to ensure water availability at the appropriate times of year for **tri-colored blackbirds**, local breeding waterfowl, and a *diversity of water dependent wildlife including listed species*. Management will simulate seasonal wetlands. The ponds, berms and surrounding habitats, as appropriate, will be enhanced to provide food, nesting and resting cover. In addition, baseline and ongoing project monitoring will be conducted to help determine the best approach for developing additional ponds, for managing these ponds and to evaluate the effectiveness of the management approach.

II. TITLE PAGE

DEER CREEK & TULE RIVER AUTHORITY

TOLEDO BASIN

TRI-COLORED BLACKBIRD HABITAT PROTECTION

Applicant: Deer Creek & Tule River Authority
P.O. Box 4388 / 16563 Road 168
Porterville, CA 93258
209-686-4716 Fax: 209-686-0151
Email: LTID@aol.com

Organization: Joint Powers Authority - California Water Code Sections 10750 et. seq.
Tax Status: Non-profit Tax Exempt

President: Benjamin R. Serafin
Management: Roger W. Robb
Daniel G. Vink

Ecologist: William Hamilton
Professor Emeritus
University of California at Davis
Davis, CA 95616
916-752-1122
Email: wjhamilton@ucdavis.edu

RFP Types: Construction

III. PROJECT DESCRIPTION

A. Project Approach

The project is being developed to insure a dry year water supply for tri-colored blackbirds. This is being pursued through the construction of a groundwater well. The district typically supplies water to the ponds from February through April, however in years when an adequate water supply is not available, ground water pumping will be required to maintain the tri-colored habitat.

Monitoring is not envisioned as a separate project phase, but as an integral overall part of the project. Day-to-day project management, additional needed work and evaluations for continuing or revising the project cannot properly occur without *monitoring*.

Phase I (Immediate) Drilling of a 14" well.

A 14" reverse rotary gravel pack well will be drilled upon receipt of funds.

In a normal year, water is applied to the pond in February through April for groundwater recharge, conjunctive use and water conservation. These costs are being covered by the districts. Sometimes flood water may be available. For the purposes of this project in general, approximately 750 acre feet per month of additional water will be necessary to provide on demand for tri-colored habitat protection and enhancement.

Phase II (Use of the well)

Use of the well will be determined by hydrologic conditions. The Authority will work with biological consultants to determine the amounts and times of water to be applied.

B. Project Location

The proposed site is located in Tulare County. The project will be operated by the Deer Creek and Tule River Water Authority. It is located on about 160 acres in the south west quarter of Section 32, T21S, R24E of the MDB&M. The surrounding area is comprised of irrigated row-crops and dairy facilities. The general area layout and the pond layout is illustrated in Exhibit A.

C. Expected Benefit

Please reference the letter from UC Professor William Hamilton (Exhibit B) as it pertains to the existing program provided by the Authority.

Please see EXHIBIT D

D. Biological Justification

Please see EXHIBIT E

E. Proposed scope of work

Phase I (Immediate Fall/Winter Waterfowl Habitat Improvement)

The drilling of the well will provide immediate insurance for the 1998 tri-colored blackbirds breeding season. The Authority will continue to generate financial and technical performance reports as published in its annual report

Phase II (Development of Public Opportunities)

Although the potential for development of public opportunities exists, they necessarily must follow site development. Consultations with the California Department of Fish and Game (CDFG), local and regional schools and other interested parties will commence during this period to explore reasonable and feasible opportunities, considering adjacent land uses, ongoing land uses and public access and safety.

These types of enhanced basins may be used for the development of environmental educational opportunities for local and regional schools. Botany, wildlife, waterfowl, conservation, neotropical birds, endangered species, biodiversity, agriculture and water needs are all subjects possible for treating. Tours and/or the development of nature trail(s), brochures and roadside interpretation are all possibilities being evaluated.

F. Monitoring and Data Evaluation.

Please see EXHIBIT F

G. Implementability

Please see EXHIBIT G

IV. Costs

A. Budget Costs

The Deer Creek & Tule River Authority is requesting funding for the costs to drill the well. The operations and maintenance costs along with the power costs will be the responsibility of the Authority. In addition, the Authority will all bear administrative and indirect labor costs.

Costs to drill the well are attached as Exhibit C.

B. Schedule Milestones

Full implementation of the project depends upon assistance in funding.

Payments as it relates to the construction of the project is flexible. It would be expected that payment in full as previously guaranteed would be received at the projects completion.

C. Third Party Impacts

There are no anticipated or potential third party impacts.

V. APPLICANT QUALIFICATIONS

The Authority intends to utilize the following resources as needed:

MH WOLFE and Associates ENVIRONMENTAL CONSULTING INC.

Certified woman-owned business

Certified small business

Marcia H. Wolfe - Plant and wildlife ecologist with over 25 years experience in disturbed land reclamation and re-vegetation design, implementation and monitoring, including baseline surveys and research. Twelve years experience in California endangered species and environmental permitting and regulation compliance. Assist with permitting, baseline studies, develop re-vegetation plans. Design and supervise monitoring.

References: Dick Moss - Friant Water Users Authority/(209) 562-6305
John Juette - J&M Land Restoration/(805) 872-7039

Dr. Larry Stromberg - Wetland scientist with over 50,000 acres of delineations and 20+ years experience in design, construction and restoration of vernal pools, wetlands and perennial marshes. Prepares biological assessments and mitigation plans. Assist with monitoring, revegetation design and baseline studies.

Reference: Doug Bower - Santa Rosa City Schools/(707) 528-5381
Alan Strachan - Courtside Village Joint Venture/(707) 575-3103

Management of the drilling and O&M will be the responsibility of Roger W. Robb the Engineer-Manager of the Deer Creek & Tule River Authority. Mr. Robb is a certified Civil Engineer in the State of California and hold a Masters Degree in the Science of Engineering from the University of California at Berkley. Mr. Robb has served as Engineer-Manager of Authority member agencies Lower Tule River Irrigation District and Pixley Irrigation District for 21 years.

VI. COMPLIANCE

All compliance consistent with the RFP will be adhered to.

1-001407

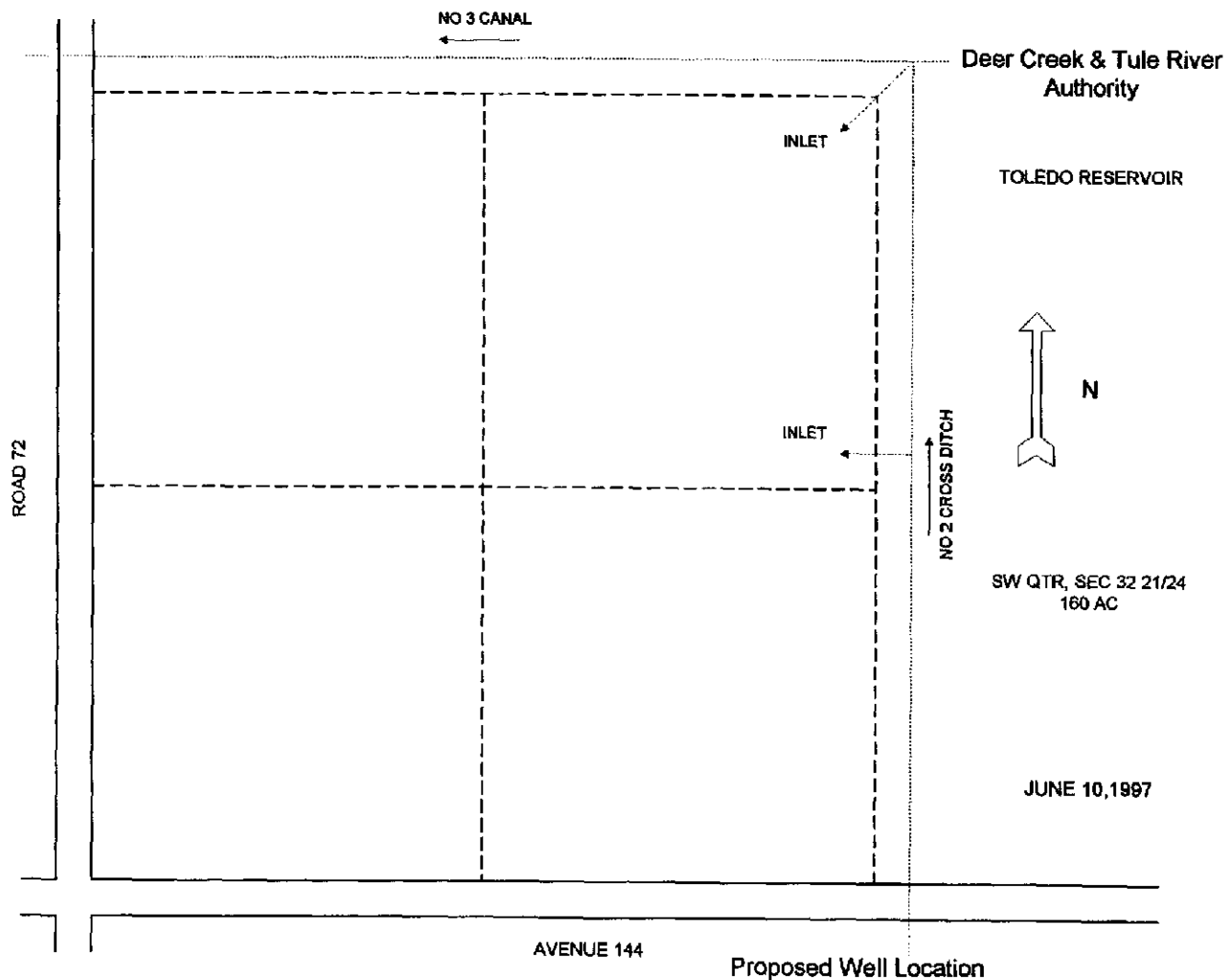


EXHIBIT A

1-001407



EXHIBIT B

DIVISION OF ENVIRONMENTAL STUDIES
May 19, 1997

DAVIS, CALIFORNIA 95616

Prof. William Hamilton
DES, UCD
Davis, CA 95616

Mr. Dan Vink, Asst. Mgr.
Lower Tule River Irrigation District
16563 Road 168
Woodville, CA 93258

Dear Mr. Vink and Mr. Robb:

Thank you for expediting the delivery of additional water to the Toledo Pit! The 40s needing water are the northwesterly one in particular but also the 40 to the south of that (the southwesterly 40). There are between 20,000 and 40,000 tricolors actively nesting in the NW 40 now and they are early in development. Water for a two to three week interval would enormously improve the chances that successful production of nestlings will occur.

It has been a great pleasure to find several collaborators such as the Lower Tulare Lake Irrigation District willing to discuss wildlife issues, to identify target populations and realizable goals, and to take appropriate action. I appreciate the cost of water and its alternate uses, and tight targeting of particular wildlife populations is a potentially highly effective way to get the most benefit from available water supplies.

To put the Toledo Pit in perspective, there were about 320,000 tricolors known to be entering the breeding season in 1994, and there may be fewer this year. At its peak in early May of 1997 there were 60 - 70,000 tricolors nesting in the Toledo pit, about a fifth of the world population. Elsewhere, for example on the Tulare Lake Drainage District Ponds, there are another 52,000 nesting birds. And there also I received a welcome from Doug Davis to be on private property and to evaluate the status of the tricolors there.

The tricolors at the Toledo Pit forage almost exclusively upon insects in alfalfa, an obvious benefit I hope to further document later in the season if the colony doesn't fail.

I have asked my associates at California Fish and Game to contact you and to acknowledge your major contribution to this species and to the other assembled wildlife there during the breeding season - breeding ruddy ducks, mallards and several thousand itinerant dowitchers of their way to the far north to breed.

I looked at the several additional water points managed by the district. Each of these has some particular wildlife value, but none has the constellation of characteristics necessary to sustain tricolors. The large adjacent alfalfa fields near the Toledo pit are in particular well suited to sustaining a colony during the interval when these birds are absolutely dependent upon insect food for their nestlings.

The Toledo Pit tricolor colony is a spectacular natural event when it is in full swing. I will get additional information to you about the events of the season at the Pit after the breeding season is over. Meanwhile, thank you for helping with water.

Sincerely Yours,

Bill Hamilton

William J. Hamilton III
Professor, Ecology, emeritus

TRI-COLORED BLACKBIRD HABITAT INSURANCE

Budget

Well Drilling

Drill, case and gravel pack 620 ft. 14" well @ \$52 per foot	\$	32,240
Ancillary costs	\$	500

Motor and pump costs

Equipment

Bowl Unit	\$	6,340
Column Assembly	\$	5,344
75 hp service panel	\$	2,241
75 hp Energy saver motor	\$	4,703

Labor:	\$	2,500
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Misc	\$	<u>1,000</u>
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Sub Total:	\$	22,128
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Total Program Costs:	\$	<u>54,368</u>
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EXHIBIT C

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I-001410

c. Expected benefit(s)

The benefits of this project are particularly species oriented. However, an ecosystem and the hydraulic connectivity to the Bay-Delta do exist. This project conforms with three of the implementation objectives of the Ecosystem Restoration Program Plan are to "restore basic hydraulic conditions to reactivate and maintain ecological process" for the Central Valley, to "improve flood plains along rivers and streams" and to contribute to the improvement of the Bay-Delta hydraulics. All the Central Valley watershed systems, including the San Joaquin River, its rivers and intermittent tributaries, and the intermittent tributaries to the Tulare Lake Basin, the Kern River basin and its intermittent tributaries, are all a part of the hydrologic system which feeds the Bay-Delta. As much of the system is intermittent, in average and above average years of snow melt and precipitation, restoration of groundwater, maintenance of alluvial hydraulic connectivity and overland riparian and flood flows become very important throughout the system. Although its importance remains unrecognized by the Ecosystem Restoration Plan Program, the overflow of the Kern River and southern San Joaquin, Buena Vista and Kern lakes into the Tulare Lake Basin, San Joaquin River and ultimately the Bay-Delta, likely played, and still do have an important role in the long-term wetting, flushing and sustainability of the Central Valley lake, stream and wetland systems periodically. This additional extra water adds to both surface and groundwater systems, connecting this watershed with the San Joaquin River and Bay-Delta ecosystems both directly and indirectly, in addition to the movement of the affected species among the systems. Stressors, species, habitats and proposed restoration actions for this project are summarized in Table 1.

This project is one of several planned San Joaquin Valley demonstration projects which will address hydrographic alterations and habitat enhancement for ecosystem rehabilitation throughout the entire watershed. The San Joaquin Valley has lost more wetland habitat than any other part of the Central Valley, and used to support vast flocks Table 1. Summary of pertinent stressor, species, habitats and planned actions.

Stressors	Habitat	Species	Restoration Action
<p>1. Hydrographic alteration</p> <p>2. Flood plain changes hydrological isolation of flood plain/marsh plain</p> <p>3. Physical isolation of flood plain/marsh plain</p>	<ul style="list-style-type: none"> wetland riparian seasonal wetland aquatic 	<ul style="list-style-type: none"> tri-colored blackbird sandhill crane riparian wildlife guild white-tailed kite white-faced ibis waterfowl shorebirds 	<ul style="list-style-type: none"> re-regulation or management of water to provide adequate forage and cover for the tricolored blackbird installation of water well to ensure adequate food supply and cover during drought periods revegetation of berms and uplands with native species for waterfowl brood habitat planting of large trees and shrubs for raptors and neotropical migrants environmental education recreational opportunities (birding, hunting?)

c. Expected benefit(s) (continued)

of migratory waterfowl, shorebirds and other species. However, most of these lands have been drained and converted to agriculture and urbanized. Yet the least amount of restoration and habitat enhancement has been initiated in this region. Current practice by most is generally to "clean farm" levees, recharge and equalizing basins or allow natural invasion by exotics. If all water districts, or even if a majority of water districts and their growers enhanced their canals, ditches, recharge and equalizing basins by re-regulating flows, increasing conjunctive use, revegetation and appropriate management for affected species, the entire biological physiognomy and agro-ecosystem would be improved, not only hydrologically, but also for waterfowl, shorebirds, seasonal wetland species and upland species, many of which are rare, threatened or endangered.

This project is already an existing site, with four types of aquatic and wetland pond sites managed for groundwater recharge. In addition to numerous waterfowl and shorebirds, ranging from all types of geese and pelicans, to white-faced ibis and others, approximately one-third of the world's population of tricolored blackbirds nest regularly in the bulrushes and tules of one of these four ponds. The tricolored blackbird is one of many Central Valley species which has become increasingly restricted because of habitat loss and fragmentation. If this species populations were more robust, they may more readily be able to invade newly restored and enhanced habitats throughout the valley and Bay-Delta region, lessening its vulnerability.

Although a species of concern, their physical numbers are not precariously low at this time. However, there are not many large groups. Their gregarious nature for nesting and feeding places them at risk during the most vulnerable portion of their life cycle, breeding and rearing young. This project would enable the provision of water to help support an adequate food supply and cover during drought periods. The cost of the water or its pumping are not being applied for with this grant application. The request is for the construction of a well and enhancement of ten acres of habitat. The ability to provide a water source to enhance and maintain insects, other food supplies and cover for this important segment of a bird population at a critical time is very important, and may likely be able to help ensure the long-term continued viability during drought periods, of this formerly wide spread species.

Potential for restoration of the historic Tulare Lake Basin on a large scale is limited because of high agricultural value. No other practical alternative exists for providing water to this location during drought periods because of the high seepage losses which would be suffered to run a small amount of water through the Deer Creek system. Consequently, the alternative is to enhance the capability and flexibility on site to pump groundwater. Additional benefits would naturally accrue to the other waterfowl, shorebirds and wildlife which typically also use the site.

Secondary benefits will evolve with the elevation of public awareness of watershed, hydrologic and habitat enhancements and recovery of rare species in conjunction with the maintenance of a viable agricultural economy. Site specific environmental interpretive displays can be developed at a public assessable location describing the project. Public recreational options, such as birding, will be increased with the presence of habitat.

This project is related to a variety of others and is consistent with the Riparian Habitat Joint Venture,

pursuing goals to restore, protect and enhance our fragmented riparian habitat, and with the North American Waterfowl Plan. But even more important perhaps, is the development of partnerships and the associated Coordinated Resource Management and Planning program being developed for the Deer Creek watershed. This will involve not only the applicant, the Lower Tule River, Pixley Irrigation Districts and Deer Creek and Tule River Authority, but will begin to involve the general public. This type of leadership will result in a domino effect over time of numerous similar and related efforts. This project has short term and long term benefits with the ability to contribute to minimizing limiting factors for not only the tricolored blackbird, but waterfowl and shorebirds, in addition to other species of concern relative to the San Joaquin Valley multi-species recovery efforts, regional county Habitat Conservation Plans (HCPs) in progress (Kern and Tulare counties), and the implementation of the Long Range Conservation Plan under the Friant Long Term Contract Biological Opinion. This project also would dovetail with the Friant Water Users Authority (FWUA) ongoing vegetation management program which is experimenting with the use of native perennial species for weed and pest control erosion and habitat enhancement. This project, which is a partnership among the Friant Water Users Authority, Department of Pesticide Regulation, California Department of Fish and Game, US Bureau of Reclamation and the Tulare County Farm Bureau, is currently developing a broad public outreach program, involving private landowners in addition to agency partners. This project would be able to further demonstrate the effectiveness of the use of revegetation with native perennial species which has not been previously done in the San Joaquin Valley to any extent.

Relative to CALFED non-ecosystem benefits, this project, in combination with others will contribute to helping to re-establish the overall system integrity. The interconnectedness of the Central Valley is maintained through its species and hydrologic connectivity to which this project will contribute in both ways.

E. Background and Biological/Technical Justification

As described under expected benefits, the need for the project is significant. Existing conditions are that most of the agro-ecosystem not cultivated is maintained in a "clean farmed" condition, which is conducive to only a few species, many of which are pests, e.g. California ground squirrel. Other possible approaches for accomplishing the primary goal of this project, which could result in long-term changes, are not economically acceptable at this time. In addition, during drought, water conservation is of utmost important, particularly, and significant amounts of water would be lost to seepage to run the system for the small amount of water which would be needed by the birds.

The expected benefits are based on observations that this large segment of the tricolored black bird population already inhabits this site during the critical nesting period. Knowing that in a several years out of ten, inadequate water exists to maintain not only the productivity and density of the cover vegetation, but to supply an adequate food base for such a large number of birds on such a small parcel, the benefits are easily calculated. Furthermore, basin-wide implementation of the habitat enhancements in conjunctive with this type of project can be expected to result in increased water management flexibility, and likely increased water availability throughout the watershed, especially in drought years.

This is a continuing project. The basins are already built, although vegetation enhancement would be valuable, many wetland species have naturally invaded the previously constructed sites. The amount spent to date on this project is \$25,000 for the provision of the water during the summer drought of 1997. Dr. William Hamilton, professor emeritus at the University of California, Davis, has documented this particular population of birds. In addition, MH Wolfe, the staff biologist for the Friant Water Users Authority also observed these birds nesting on site during the Spring of 1997.

EXHIBIT F

F. Monitoring and Data Evaluation

Project partners, the California Waterfowl Association, California Department of Fish and Game, US Bureau of Reclamation and Dr. W.J. Hamilton, will be involved in the planning and evaluation of project monitoring. The Kern County Chapter of the Audubon Society is being queried as to their possible interest in helping monitoring and site interpretation. Quarterly bird monitoring and annual vegetation monitoring are planned.

Data collection can be compared with similar work ongoing and being developed at the FWUA district locations for water recharge basin and equalizing reservoir enhancement and restoration. In addition to CalFed, we participate in the San Joaquin River Basin Quarterly Monitoring meetings and in the San Joaquin River Monitoring program where information and data are shared among a wide variety of restoration and enhancement efforts through the efforts of MH Wolfe, the FWUA staff biologist.

EXHIBIT G

G. Implementability

The project will comply with all pertinent local, state and federal laws and regulations. Outreach efforts have established a wide variety of partners. As the CRMP for the Deer Creek watershed is developed in Phase II of a related habitat and groundwater conjunctive use and enhancement project upstream on Deer Creek which has initial funding through the Central Valley Improvement Act Restoration Funds, many more partners, participants and cooperators are anticipated. No NEPA or CEQA review are required for the well drilling or site enhancement. Appropriate permitting will be conducted for the water well through the County Environmental Health Department